ENHANCED SERVICE PLATFORM WITH SECURE SYSTEM AND METHOD FOR SUBSCRIBER PROFILE CUSTOMIZATION

This application is a continuation-in-part of U.S. patent application Ser. No. 09/238,108, filed Jan. 27, 1999, entitled "Enhanced Telephone Service System With Secure System And Method For E-mail Address Registration."

The present invention relates generally to a subscriber profile customization system and method and more particularly to a secure method for registering subscriber profile data with an enhanced service provider.

BACKGROUND OF THE INVENTION

Registration of subscriber profile data is well known among service providers. Service providers routinely require subscribers to specify subscriber profile data such as a personal E-mail (electronic mail) address. This is typically completed by having the subscriber do one of the following: send an E-mail message containing subscriber profile data to a specified E-mail address; use a web browser, such as Netscape Navigator, to log onto the service provider's web site on the world-wide-web (WWW) to register the data; spell out the data on a telephone keypad; or recite the data to a live operator.

A list server is an example of a service that often requires subscribers to register subscriber profile data such as a personal E-mail address in order to receive mail deliveries. A subscriber is generally required to send an E-mail message to a specified E-mail address, the E-mail message requesting subscription to the list server's services. After receiving the E-mail message, the list-server registers the corresponding E-mail address by storing the network routing information contained in the E-mail message. For more information on list-servers, see *List Owner's Manual for LISTSERV, ver*1.8, L-Soft International, Inc., 1997, which is hereby incorporated by reference for purposes of background information.

The problems associated with known subscriber profile data registration techniques are numerous. For example, notifying a subscriber that the registration attempt was, or was not, successful is often difficult; entering subscriber profile data such as an E-mail address via a telephone keypad is often tedious and error prone; and, verifying that a subscribed service is being directed to a legitimate entity is difficult.

After processing a subscriber profile registration request from a subscriber, notifying the subscriber that the registration request was, or was not, successful can be difficult. A common method of registration verification is for a service provider to send an E-mail message to a subscriber's E-mail address confirming the registration. The network routing information contained in the subscribing profile registration request is typically used for this purpose. However, lack of a corresponding non-delivery notification does not positively indicate successful delivery of the confirming E-mail message. To further complicate matters, if the E-mail address is invalid for any reason, a service provider typically has no way of notifying the subscriber to try to register again.

Using a telephone keypad to enter subscriber profile data is not a very accurate method of registering subscriber data. Subscriber profile data such as E-mail addresses are often quite long and typically include non-alphanumeric characters, such as the "at" sign (@) or the underscore (_); neither punctuation is represented on a telephone keypad. Therefore, the likelihood of error while typing in subscriber

profile data on a telephone key pad is quite high. Similarly, speaking subscriber profile data to a live telephone operator or to a voice-recognition system is also error prone.

It is important to ensure that a subscribed service is being used by legitimate subscribers and similarly that the subscriber's profile customization data is not being altered by nonsubscribers. This is especially pertinent when the services being provided are proprietary or expensive. Conventional enhanced service platforms typically use an external web server to communicate with subscribers. The external web server typically communicates with subscribers via a direct Internet connection and with the enhanced service provider via an Intranet connection. While a direct Internet connection between subscribers and the external web server provides a convenient data exchange mechanism, the direct Internet connection is vulnerable to third party attack. Consequently, both the Internet and the Intranet connections must be regulated by expensive firewall devices in order to insure the security of the data transmitted to the enhanced service platform. These firewall devices are expensive, limit the number and types of communication protocols that may be used by the web server, and remain sensitive to attack by third parties.

What is needed is a subscriber profile registration system and method for registering subscriber profile data with a service provider without the data specification, verification, and notification issues commonly encountered by service provider platforms. Thus, a system is needed that provides a method for accurately entering subscriber profile data, provides a method to verify that subscriber profile data is being modified by a legitimate entity, and insures that the status of a successful or unsuccessful subscriber profile registration attempt is conveyed to the subscriber. Preferably, the system will also allow a subscriber to query subscriber profile data.

BRIEF DESCRIPTION OF THE DRAWINGS

Additional objects and features of the invention will be more readily apparent from the following detailed description and appended claims when taken in conjunction with the drawings, in which:

FIG. 1 is a block diagram of an embodiment of the enhanced service platform of the present invention, for subscriber profile registration with a service provider;

FIG. 2 is a block diagram of a subscriber workstation with web and mail server interfaces for entering subscriber profile data that is to be registered with a enhanced service platform or query registered profile data;

FIG. 3A is a flow diagram of an embodiment of a Subscriber Service Manager for managing subscriber requests at a service provider;

FIGS. 3B and 3C depict alternative embodiments for generating transaction IDs;

FIGS. 4A and 4B depict flow diagrams of a first embodiment of a Customization Module for processing a customization message;

FIGS. 5A and 5B depict flow diagrams of alternative embodiments of a Customization Module for processing a customization message; and

FIG. 6A and 6B depict block diagrams of alternative embodiments of a database record, for storing subscriber profile data that is to be registered with the platform.

SUMMARY OF THE INVENTION

The present invention is used in conjunction with a system such as an Enhanced Service Platform **100** that